

The Entomologist's Record,
AND
JOURNAL OF VARIATION.

No. 1. Vol. I.

APRIL 15TH, 1890.

THE GENUS *ACRONYCTA* AND ITS ALLIES.

By DR. T. A. CHAPMAN.



THE genus *Acronycta* contains species that are individually of considerable interest, and as a group, presents many points of attraction, both to the systematist and to the field naturalist. My own attention was drawn to the group many years ago. In rearing *Simyra venosa* (*Arsilonche albovenosa*), I felt convinced that its relationship to *Acronycta rumicis* was much closer than was recognised; and the curious brotherhood of *psi* and *tridens* always had a fascination for me; then, some years ago, in rearing *A. alni* the variation of one specimen in the number of its moults, a subject I felt interested in, made me desirous of more closely studying the group. It is only recently that I have been able to do so, and in these notes I propose to record some of the results.

So far as I know, no details such as I have brought together of the earlier stages of the *ACRONYCTIDÆ* have been published in England, nor, indeed, on the Continent; but this is merely a confession of my ignorance of Continental literature. The imagines have been abundantly dealt with, and the full-grown larvæ will no doubt be exhaustively treated in an early volume of Buckler's larvæ. I have therefore rather passed these stages by in recording my observations. As I gained knowledge and experience of the group I found that I had missed in those species first dealt with, several points worthy of note, and of all, I am

not so industrious in taking full notes as not to leave much to be desired.

I may refer here to a paper in the *Transactions of the Entomological Society* for 1879, by Mr. A. G. Butler, which propounded such extraordinary ideas that I felt it was necessary that further research should confirm or refute them, and I may say at once that it proves to be a case in which one's natural suspicion is well founded, and not the result of mere prejudice and habit.

Although the genus *Acronycta*, as represented by our British species, naturally divides itself into three very distinct and well-marked groups, and though some species, hitherto placed in separate genera, such as *venosa* already referred to, seem closer to one of these groups than these groups are to each other, the genus, without precisely defining its limits at present, is very distinct from other families of the NOCTUÆ and from any group of BOMBYCES. Some of the outlying species that have at different times been referred to in this group, present some difficulty in deciding whether they really belong to the ACRONYCTIDÆ or not, and with what other groups they have more or less affinity—such species are *orion*, *coryli*, *cærulcocephala*. But leaving these for the moment on one side, and confining our attention to the species more typical of the genus and group, we find certain points of affinity throughout all their stages that bind them together and distinguish them from other families.

The egg is low dome shaped, that is, it consists of a segment of a sphere, always less, usually much less, than a hemisphere, lying on its flat side, and ribbed from the summit to the circumference in a way that I have learned to regard as characteristic of NOCTUÆ, though I am not able to distinguish it by description from that met with in other groups; the typical NOCTUA egg, though ribbed in this manner, is usually more or less spherical.

The most characteristic stage is the newly-hatched larva. It tends to have certain segments pale and others dark, but in all cases the eleventh segment is paler, smaller, and "weaker" than the rest; it is occasionally a little broader than the others, but it is always lower and flatter, and its tubercles and bristles are smaller and less developed. This relative development of the eleventh segment persists in many species throughout the life of the larvæ, even to the full-grown period; in *alni*, for instance, this segment has no clavate hairs.

I may note that I describe the head as segment one, as is, I think, now universal; but I mention the matter, as I find descriptions of *Acronycta* stating the *eleventh* segment to be large, tuberculated, etc., these count the segments, omitting the head, and refer to the large *twelfth* segment.

The pupa is less characteristic; it serves rather to divide the genus into the three characteristic groups I have referred to than to define the group as a whole. The pupa of the *rumicis* group is very characteristic and rather bombyciform in its aspect. The others are more of an ordinary NOCTUA pattern, but present features that separate them from other families. This is perhaps a somewhat rash statement to make, since I must confess my knowledge of NOCTUA pupæ is of a rather superficial character.

Of the imago I find my superficial knowledge of other groups compels me to speak with much diffidence. Still I think the dagger mark at the anal angle has some distinctive features. Below the median vein there follows another, usually, I think, called the first sub-median; but in the long space between these, extending from the base to the hind margin, there is sometimes another, or "intermediate" vein. This is very distinct in *Liparis monacha*, the arched black marks in which show the spaces on each side of this intermediate vein, between it and the median on the one hand and the sub-median on the other, to be of equal value with the other spaces between the veins.

In *Acronycta* this intermediate vein is represented by a trace only, towards the hind margin, and the spaces above and below it are reduced to less than two spaces, but are still rather more than one, the vein is marked by the line of the "dagger" (take *psi* as an example) and the fringe presents two black marks, one for each inter-space, placed closely together, and not regularly spread as in the rest of the wing. In what I take to be a typical NOCTUA, this intermediate vein is entirely wanting, but there are several groups in which it may be found, not so distinctly as in *Acronycta*, but in which, nevertheless, it might be described in almost the terms I have used in regard to that genus. The ORTHOSIDÆ and the genus *Xylina* occur to me as such instances.

Acronycta certainly has some affinity to the BOMBYCES, probably most to *Liparis*, and the genus *Cymatophora* appears also to have relationship with other groups regarded as true BOMBYCES, and for these reasons the genera *Acronycta* and

Cymatophora are placed in contiguous families; this is unfortunate, as I am convinced they are in no way related, not so much so, perhaps, as *Plusia* is to *Leucania*. I hardly know in what points they agree, whilst the ova are very distinct, that of *Cymatophora* and *Thyatira* being more of a *geometrid* (or perhaps *Bombyx*) pattern than that of a *NOCTUA*. If the *CYMATOPHORIDÆ* were placed in the *BOMBYCES*, it would not materially increase the heterogeneous character of that division.

Acronycta, as represented in Britain, divides itself naturally into three sections, which really are distinct genera rather than sub-genera.

The first of these is the *Rumicis* group, consisting of

- | | |
|------------------|-------------|
| 1. Auricoma. | 4. Venosa. |
| 2. Myricæ. | 5. Rumicis. |
| 3. Menyanthidis. | |

These are very closely related, and hardly admit of sub-division, although *venosa*, on the ground of the coloration of the imago, may be so separated for convenience.

The second group consists of—

- | | |
|--------------|------------------|
| 6. Psi. | 10. Megacephala. |
| 7. Tridens. | 11. Leporina. |
| 8. Strigosa. | 12. Aceris. |
| 9. Alni. | |

This group is not so homogeneous as the first, and may be sub-divided, if fancy so dictates, into sub-genera, of which each species, except the two first, will represent one. Such sub-division might be desirable if one were dealing with the *ACRONYCTIDÆ* of the whole world. The best character on which to found the sub-divisions will be found in the relative positions of the pale and dark segments of the newly-hatched larvæ.

The third group contains only one species—

13. Ligustri,

and is so different from the others as to justify the doubts as to its being a true *Acronycta* that have been held; it agrees with them, however, in the form and sculpturing of the egg, and in the "weak" eleventh segment of the young larva, though this feature is less pronounced than in the other groups.

(To be continued.)